

FOREST AND HUMANKIND: A STUDY OF AN AGE-OLD RELATIONSHIP

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Abstract

Since the inception of human life on earth, humans and trees have been interrelated. The truth always has been and will be so in the future that man is dependent on forests, whether they agree to it or not. But in return the humans have been unkind, opportunistic and greedy for their own benefit to cut down trees, using the timber, construct buildings, roads, industries etc. This has unfortunately led to constant denigration and exploitations of the forests around us, without even a cursory glance to how it can and will affect human life in the coming days.

Forest as a natural reservoir of resources provides us with Shelter, Food, Timber, Pure Air, Climate & Weather Control and prevents Air Pollution, Soil Erosion etc.

This study draws attention to the truth that without forests there will be a cascading effect on human life and its quality, from the air we breathe to the food we eat. Dire uncontrollable situations will unfold in climatic changes, food resources, and global warming which will have devastating effects on the human ecology and environment.

We have a history of centuries where humans have cohabited the earth with trees in total tandem and communities had formed historical, social and cultural bonds connecting them intimately.

The aim of this study is to create awareness and reiterate the fact that life of us humans and the quality of it can only be maintained if we turn our attention to conserving and restoring forests without any delay.

Keywords: Forest, Deforestation, Ethnic, Tribal, Energy, Biodiversity.

1.1 Introduction

Since time immemorial, the start of our existence, humankind has shared a profound alliance with forests, a symbiotic relationship, where they have sustained each other. The forests have silently been our companions, providers, protectors and omnipresent witnesses to the achievements of our kind.

This chapter will explore our intricate correlation characterized by our co-dependency and balance. Throughout our history, humankind has been involved with forests in a variety of ways, from hunting and gathering, to agriculture and later industrialisation. At the very start the humans relied on the forests for food, medicine, wood

and other resources. As the time passed our ancestors favored the open spaces rather than the calm serene shelter of the green canopies. They began to settle on the fertile banks of rivers, they started agriculture, farming and rearing of animals depending on the support of the forests as a secondary resource of sustenance.

This led to the crucial economic and social development of the middle ages where humans relied on forest resources for building, heating, fuelling and production of materials like charcoal, iron etc.

With the rise of industrialization the demand for forest resources heightened further and forests were cleared for mining, farming, timber necessary for the upcoming industries to function.

In return how humans have both worshiped and pillaged these green sanctuaries. We will delve into how critical a role the forests play in the economic and ecological well being of the humans.

We will also pursue the significance of forests in relation to society and lifestyle and try to get an insight into the tribal community and its lives as affected by the ecological system of the environment they inhabit and have revered generation after generation.

However this narrative would not be complete without acknowledging the threat we have to the green covers all over the world and have commenced to devastate the one great relationship we should have protected and conserved at all costs. Though humankind was progressing in leaps and bounds it chose to turn a blind eye towards the gradual impact of an overwhelming demand we constantly made to the forests and its resources. FRANÇOIS R. CHATEAUBRIAND's aphorism renders the idea well: "Les forêts précèdent les peuples, les déserts les suivent", (forests come before people, and deserts follow them).

Only if we start understanding the extensive benefits of healthy and verdant forests for us humans and the dangers of letting them decline progressively, can we strive to create a future again where humankind and forests continue to bloom in a mutually beneficial coexistence.

1.2 Materials & Methods

To understand the present condition of forest covers; role of forests in the ecosystem; the relationship between humans and forests: social, cultural and economic; awareness of the looming dangers of deforestation and reading available information on forests and its contribution to the environment.

1.3 Results and Discussion

Forests and its resources: Forests are like overflowing treasure chests for all living beings on Earth. They're not just a collection of trees, but a complex web of life offering a vast array of resources that sustain us all. Here's a glimpse into the riches forests provide:

Forests are just not a collection of trees, they are treasure chests for all living beings on the earth and every one of them one way or the other profits from its vast array of provisions for sustenance.

Let's take a peek into the wealth it bestows:

AIR: Forests are the planet's lungs. Through photosynthesis, trees absorb carbon dioxide, a waste product of our respiration, and release oxygen, making life possible for all air-breathing creatures.

FOOD: They provide sustenance for countless herbivores. Predators, in turn, find their prey thriving in this rich habitat. Forests are also crucial for pollinators like bees and butterflies, who gather nectar and pollen from flowering plants, ensuring the reproduction of these plants and the continuation of the food chain.

WATER: Forests are vital sources of freshwater. Healthy forests with their dense vegetation act like giant sponges, absorbing rainwater and allowing it to slowly percolate into the ground. This replenishes underground aquifers, the source of freshwater springs and wells that many living beings rely on for survival.

HOME: Forests offer a diverse range of habitats for a staggering variety of living beings. From towering trees providing nesting grounds for birds to the intricate network of roots sheltering small mammals and insects, forests provide homes for countless species. This biodiversity is essential for maintaining a healthy and balanced ecosystem.

Nature's Medicine Cabinet: Forests are a treasure trove of natural remedies. Many plants found in forests have medicinal properties that have been used for centuries in traditional medicine. Modern science is also increasingly recognizing the potential of these natural resources for developing new medicines.

ENERGY: Wood fuels provide roughly 40% of today's energy supply of the world, together combining solar, hydroelectric and wind power is still almost at the same level if not less.

From the above it can be easily inferred that the well-being of all life on Earth is intricately linked to the health of our forests. Protecting and restoring these vital ecosystems is not just an environmental responsibility, it's a necessity for the very survival of life on our planet.

1.3.1 Importance of Forests on Human Life:

Let's take a look at how forests have been contributing to the well-being of human life from the onset.

Ecological role of forests:

i. **Supply of Oxygen:** Well, we all know it - we need oxygen to survive. The life of any human on earth starts and finishes with 'breathing', it is the sole and foremost necessity of a life. This oxygen till date has been obtained from the forests which sustained the world's population with ample air and oxygen for thousands of years. During the process of photosynthesis which any plant or tree would need to grow and live they give out the oxygen that a human being breathes and lives on.

ii. **Natural storehouse of carbon in the environment:** Forests are one of the Earth's largest carbon sinks. In the course of the photosynthesis process of a tree it pulls in or absorbs huge amounts of carbon from the environment, converting that into organic compounds and storing the CO₂ within their tissues, in their barks,

branches, leaves etc. cloistering it off from the atmosphere. This enables the regulation of the global carbon cycle and reduces greenhouse gas concentrations in the atmosphere.

iii. **Maintaining the water cycles of an area:** Trees play a major role in the water cycle of an area environment. They intercept rainfall and slow down the flowing out of the rain water thus allowing the water to soak into the ground. This process helps refill the groundwater reserves of the area and prevents drought like conditions. It make the forests effective as flood buffers the absorption of rainwater and letting it soak to the ground and refilling the groundwater reserves also helps stop the water to rush out to the streams and rivers hence mitigating the risks of overflowing the banks and causing floods downstream.

iv. **Rainfall Regulation:** Forests can be very effective in influencing rainfall patterns of an area. Forests release water vapor into the atmosphere through a process called transpiration, which then enables cloud formations and rainfall in the area, contributing to a much cooler environment.

v. **Shelter for Species:** Forests are sanctuaries or havens for a staggering number of species of flora and fauna, some of which may even still be undiscovered. It provides them with a complex, diverse and irreplaceable habitat that encourages them to grow at their own pace. The layers of forests from floor to the tip of the canopy offer shelter, nesting nooks and food for innumerable species of insects, birds, animals etc. And forests also present these species safe ground for breeding and mating without which it may lead to large scale extinction of lives and therefore affect the balance of our ecological system.

vi. **Protection from soil erosion:** In a healthy forest system the network of healthy roots protects the soil from constantly washing off acting as anchors and keeping it in place, preventing sudden landslides. This also keeps the top soil intact preserving the fertility of the area. It also prevents sedimentation and silting in the rivers surrounding the area and controls floods.

Economic & non-economic contributions of forests:

i. **Timber:** Forests play an utmost important role in timber production and availability contributing to economies, developments, industries and various other sectors. Though we do have a few alternatives, timber till date remains a necessity in construction, furniture manufacturing, paper production, and other wooden products. In many countries this also entails related employment and income of millions of people.

ii. **Pharmaceutical and Medicinal benefits:** Forests give us a wealth of medicinal products and benefits. Ranging from simpler traditional, ayurveda, traditional chinese medicines and natural healers like Ginseng, Echinacea etc. to pharmaceutical ingredients for Aspirin, Digitalis, Quinine, Artemisinin, Vincristine, Capsaicin etc. to name only a few. Even endophytes and microorganisms can be cultivated for lifesaving drugs like penicillin.

The above is enough indication to even skeptical minds that forests for humankind is an irreplaceable asset guarding and providing for the sustenance of human, animal, flora and fauna, maintaining crucial aspects of the ecological balances of the environment, Thus it should be appreciated as such.

However, we are constantly witnessing large scale deforestation which means clearing of forest covers for other purposes. The following will elaborate as to what is causing devastation of forest covers on our planet:

1) **Agricultural expansion:** Conversion of forests for cash crops such as soyabeans, oil palm; biofuel crops like sugarcane and corn; monoculture crops like rubber; have led to felling of forests and clearing of spaces to access the fertile soil for better produce. The high demand for these kinds of different crops and plantations have led people to exploit the rich soils of the forests and clearing out immense expanses of green cover in the process.

2) **Timber from forests:** Tree felling for timber is very common and though leads to huge scale deforestation apparently the needs are equally important for utilization in construction, furniture making and paper industries. Added to this is the illegal and unregulated plundering of high value forests like Shegun, Shaal, Sandal etc. Also in some developing countries forests wood is still used for fuelwood and charcoal production which are still the primary source of energy for some people for cooking and heating.

3) **Climatic Factors:** Vast stretches of forests and its inhabitants in the recent times have fallen victims to climatic factors like:

Rising temperatures have contributed to prolonged dry and hot weather which has increased the frequency and intensity of wildfires leading to loss of vegetation.

Storms and Hurricanes due to the exacerbation of global warming affecting climate to change into some extreme conditions has led to natural disasters like storms, hurricanes, floods, which have left forests devastated in their wake.

4) **Population and its pressure:** Increasing demand of the human population to settle on more and more land has led to the forest lands being cleared up. Use of forest lands for:

People migrating and settling in newly cleared spaces for better economic opportunities.

Growing cities and towns for the accommodation of more and more people have resulted in cities encroaching forest stretches.

The demand of more industries for employment, income and meeting demands of the surge in population.

Transportation necessity and easy connectivity to and from places and newly created cities, roads being constructed through forests spoiling its network and fabric leading to felling of trees and herding away species inhabiting it.

5) **Mining and Extraction:** Forests are cleared pretty indiscriminately for mining of precious metals, minerals and fossil fuels, like gold, diamonds and coal. Explorations for new sources of oil, gas and minerals lead to clearing out for drilling sites, pipelines, access roads etc.

Overall if we look at it deforestation is driven by a play of human and natural factors, though we cannot control the natural causes it is imperative that we take urgent and immediate measures to conserve an asset that has always benefited us in numerous ways and continues to do so.

As we see with urbanization and facilities available in cities, towns and suburbs like schools, colleges, roads, railways, hospitals, industries and offices we have come a long way from the agrarian society that we originated as and have conveniently overlooked the destruction and looting we have caused through the demands for forest products and clearing and encroachment of the green covers. Though we the city dwellers have forgotten how these forests have sustained us in the past, tribes indigenous to the land have remembered and with reverence adhere to past practices, rituals, festivities, which still have a deep impact on their social, cultural and economical lifestyles. Forests are an integral part of their identity and furthermore survival of these tribal communities. Here is an exploration of how this relation manifests and its impacts:

i. Cultural relations: For many tribes their traditions and festivities still are deeply rooted in their historical relation with the forests that they have inhabited and revered.

Religious and spiritual importance: The Khasi and Jaintia tribes of the North east region Meghalaya have patches of groves and forests that are central to their traditions and religious practices and they zealously guard and protect these sacred areas to keep their history and heritage intact.

The Baiga tribe of central India region of Madhya Pradesh have deities such as Budhadeo and Thakurdeo, who have originated in forests and are still worshiped with equal fervor and festivity so that they keep on blessing the tribe in their endeavors and daily life.

For the Santhal tribal community of West Bengal and Jharkhand, the Karam or Karma puja is an important harvest festival celebrated by three distinct elements, rituals, dance and songs, which are ingrained with santhali folklore, myths and stories. With the song, dance and the general merriment are an attraction for the youth of the tribe and and so promotes the cohesion of the community and passing their cultural heritage to future generations.

Arts & Craftsmanship: The Warli tribe of the Maharashtra are renowned for their unique Warli paintings which show forest scenes, wildlife and tribal life. Also, in the making of these they use natural colors made from forest materials such as red mud.

In Madhya Pradesh and Chattisgarh the Gond tribe have rich cultural musical heritage derived from forest scenes, portraying seasonal cycles, mythological deities and forest life. Often the instruments also used in these songs and musicals are crafted from forest materials like the 'bana'(a type of lute).

Homes and lifestyles: The Toda tribe of Tamil Nadu utilize the forest products in embroidery which show a direct relation with the Nilgiri forests. The architecture of their huts and dwellings the barrel-vaulted 'Toda Huts' rely upon use of forest grasses, timber and show their superior craftsmanship.

Ethnic knowledge and use of medicinal sources: Often we have turned to the forests for natural medicines to treat symptoms and ailments. The Irula tribe of the Tamil Nadu region are renowned for their knowledge of over 70 wild plant variants for asthma, digestive problems, skin diseases etc. like Chobani (Aerva Lanata) for diarrhea.

The Kani tribe of Kerala are known for their use of the forest plant Arogyapacha (Trichopus zeylanicus) for its revitalising properties which has also been developed into the commercial drug Jeevani.

ii. **Social Importance:** The Bhotiya tribe in Uttarakhand manage their forests and people through a traditional council called the 'Dharam Sabha', which oversees the use of forest resources and resolves any disputes of land, and forest use.

The Naga tribe of Nagaland have traditional laws and councils which regulate their community-based management of forest resources. This system supervises the systems of hunting, timber logging, and agricultural requirements for the employment and livelihood of their people and sustainable renewal of forests.

iii. **Economic Influence:** The Santhal tribe, predominantly present in the states of Jharkhand and West Bengal rely almost wholly on the utilization of forest resources. For their daily sustenance they often cultivate mullets, legumes alongside trees like Mahuwa (Madhuca indica), with these they harvest a variety of crops such as maize, pulses and vegetables and are known for their practice of shifting cultivation know as Jhumming, which helps maintain biodiversity and soil fertility.

For income they gather Mahuwa flowers and seeds which are used in extracting oil and making of traditional liquor. They also collect Sal leaves, wild fruits, nuts and berries, like Kendu Amla etc. These provide a good source of income when sold in the local haats and bazaars.

They are experts in the craftsmanship of basketry and weaving which produce baskets, mats, fishing traps, biodegradable sal leaf plates and bowls which are in high demand and a good source of income for the families engaged.

The relationship of Indian tribes with their forests is intrinsic and a symbiotic one deeply impacting their social, cultural and economic lives.

1.3.2 Probable plan of action:

When we study the information offered to us by various agencies and organizations we find that while humankind has happily utilized the forest covers and all it has to offer for myriad purposes as we have seen in the previous paragraphs. Humans have not spared a second thought to the destruction that has been left in its wake and it is just a matter of time when that will eventually be a regret that we cannot rectify, for which the future generations will keep blaming their predecessors.

Our sole concern at this time should be to ardently strive towards swiftly regulating and combating deforestation, for which we need a multi-pronged approach that enables us to address it from all the ways possible. But it would

not be certainly possible without the involvement and help from the government, the forest communities and the consumers with the aim of curbing the ill treatment of our existing forest resources as well as reforestation wherever and whenever possible. Here's a few options that can be helpful in combat the issue at hand:

- (i) Immediately assess and recognise critical areas and create awareness.
- (ii) Halt land conversions and logging activities in critical areas.
- (iii) Increase the capacity of forest department and law agencies to combat illegal activities.
- (iv) Sought out and enforce minimal deforestation commitments from corporations in agriculture and forestry sectors.
- (v) Recognise and Protect Land rights of people, local councils and indigenous communities giving them the right to manage and secure their forests.
- (vi) Create and regulate sustainable logging practices to reduce the impact of clearing.
- (vii) Accelerate reforestation campaigns involve the communities surrounding it.
- (viii) Convert degraded non-forest areas into forest lands and plant them with natives species trees to create new green areas.
- (ix) Offer incentives to businesses, corporations and local communities for preservation of forests and reforestation efforts.
- (x) Encourage the demand for sustainably sourced forest products as well as non-timber forest products to create a diversion to alternative income sources.
- (xi) Raise awareness and educate the common population and consumers to propagate the urgent need to conserve forests and reforestation and motivate them.

1.4 Conclusion

In conclusion, when we delve deep into understanding the relationship between humankind and forests it sheds light onto why we should be endeavoring to strengthening our ecosystems, diversity and urgently look into some of the actions which if swiftly implemented deforestation can be curtailed and there might be a chance to restore forests as a renewable sustainable resource. This integrated approach combining efforts from governments, corporations, businesses, local population and indigenous communities may provide a comprehensive push to the change needed to address the immediate challenge of deforestation we are staring at and ensure the long-term sustainability and biodiversity of forest ecosystems.

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